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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/511,925	10/18/2004	Eng Shi Ong	984-PCT-US	7210

7590 11/13/2006

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EXAMINER	
MOSS, KERI A	

ART UNIT	PAPER NUMBER
1743	

DATE MAILED: 11/13/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/511,925	ONG, ENG SHI	
	Examiner	Art Unit	
	Keri A. Moss	1743	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *18 August 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☒ Claim(s) *7,8,13 and 14* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Applicant's Amendment and Remarks filed August 18, 2006 are hereby acknowledged. Claims 1-20 are pending.

Response to Amendment

1. Previous rejection of claims 1-20 as indefinite has been withdrawn in light of applicant's arguments.

New objection to the amendments to the specification has been raised.

New objection to claims 13 and 14 has been raised.

Rejections under Wai and Hartung are maintained. New rejections under Wai and Hartung have been added. Rejection under McMurtrey has been withdrawn in light of applicant's arguments.

New rejection under Laugharn (WO 9922868 A1) has been added.

Specification

2. The amendment filed August 18, 2006 is objected to under 35 U.S.C. 132(a) because it introduces new matter into the disclosure. 35 U.S.C. 132(a) states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows: 1) amendment of the upper limit of the pressure range from 30 to 25 bars and 2) deletion of the method steps in the preferred embodiment, specifically "while the pressure ranges from about

10 to 25 bar." These amendments changed the scope of the specification in a way that equates to introducing new matter.

Applicant is required to cancel the new matter in the reply to this Office Action.

Claim Objections

3. Claims 7-8 and 13-14 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Describing the sample on which the method is used does not further limit the method itself.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims **1-9, 11, 13 and 15-17** are rejected under 35 U.S.C. 102(e) as being anticipated by Wai (USP 6,524,628). Wai discloses a method for water mediated

extraction of analytes from a sample comprising contacting an analyte-containing sample with water below 100 degrees Celsius (abstract) and at a regulated pressure from about 25 to 100 bar (abstract). The water may contain an organic solvent such as ethanol (paragraph bridging columns 8 and 9). Sand may be used as a dispersant (paragraph bridging columns 1 and 2). The contacting occurs for approximately 15 minutes (column 8 lines 51-65). The analytes may be detected using gas chromatography (column 9 lines 49-56). The flow rate of contact is about 1 mL/min (column 10 lines 10-15).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

1. Claims **1, 2 and 14** are rejected under 35 U.S.C. 103(a) as being unpatentable in view of Hartung (USP 4,176,228). Hartung discloses a method for extracting glycyrrhizin by contacting a plant sample, licorice root, with water at temperatures between 20 and 150 degrees Celsius and high pressure (column 3 lines 28-43). Hartung teaches that pressures above atmospheric would facilitate the extraction process (column 3 lines 31-32). Hartung does not give an exact pressure at which to conduct the extraction; however, the pressure at which extraction takes place is a result effective variable. A result-effective variable is one that has well-known and expected results. In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980) teaches that optimization of a result-effective variable is ordinarily within the skill of one in the art. Varying the pressure at which extraction is carried out has the well-known and expected result of making the extraction more efficient. Therefore, it would have been obvious to one of ordinary skill in the art to meet the pressure requirements of claimed extraction at 10 to 25 bars by modifying Hartung and selecting the pressure in order to obtain the most efficient extraction.

8. Claims **1-9, 11, and 13-17** are rejected under 35 U.S.C. 103(a) as being unpatentable under Hartung (USP 4,176,228) in view of Wai (USP 6,524,628). Hartung discloses a method for extracting glycyrrhizin by contacting a plant sample, licorice root, with water at temperatures between 20 and 150 degrees Celsius and high pressure (column 3 lines 28-43). Hartung teaches that pressures above atmospheric would facilitate the extraction process (column 3 lines 31-32).

Hartung does not give an exact pressure at which to conduct the extraction. Wai teaches a method for water mediated extraction of analytes from a plant sample at a regulated pressure from about 25 to 100 bar (abstract; column 1 lines 52-55; column 4 lines 7-11) using water below 100 degrees Celsius (abstract; column 1 lines 52-54). The water may contain an organic solvent such as ethanol (paragraph bridging columns 8 and 9). Sand may be used as a dispersant (paragraph bridging columns 1 and 2). The contacting occurs for approximately 15 minutes (column 8 lines 51-65). The analytes may be detected using gas chromatography (column 9 lines 49-56). The flow rate of contact is about 1 mL/min (column 10 lines 10-15). Wai teaches that this method isolates plant materials more effectively than prior methods (column 1 lines 45-59). An additional advantage is that it provides facile extraction of thermally labile compounds (column 1 lines 45-59). It would have been obvious for one of ordinary skill in the art to modify the Hartung method with the teachings of Wai in order to gain the advantages of a more effective extraction and to gain the additional advantages of easy and effective extraction of thermally labile compounds.

9. Claims **10 and 12** are rejected under 35 U.S.C. 103(a) as being unpatentable over Wai. Wai does not disclose contacting between 20 and 40 minutes nor does Wai disclose a specific concentration of ethanol in the ethanol/water mixture. Both the time for contact and the concentration of ethanol are result-effective variables. A result-effective variable is one that has well-known and expected results. In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980) teaches that optimization of a result-effective

variable is ordinarily within the skill of one in the art. Varying the amount of time of contact or the concentration of alcohol has the well-known and expected result of a more effective extraction for the particular analyte. Therefore, it would have been obvious to one of ordinary skill in the art to meet the time and concentration requirements of claimed 20 to 40 minutes of contact or 5-30% ethanol mixture by modifying Wai and selecting the size and concentration in order to find the most effective extraction.

10. Claims **18-20** are rejected under 35 U.S.C. 103(a) as being unpatentable over Wai in view of Laugharn (WO 9922868 A1). Wai does not address extracting proteins from the plant material. Surfactants and detergents are well known by those working in the art to precipitate out proteins. Surfactants and detergents are also commonly used in extractions. Laugharn teaches such a method of extraction using high pressure water extraction including surfactant (page 8 lines 7-15). The surfactant may be sodium dodecyl sulfate (paragraph bridging pages 28-29). It is well known among those of ordinary skill in the art that surfactants and detergents can be used in extraction to precipitate proteins without inactivating them (paragraph bridging pages 28-29). Therefore, it would have been obvious to one of ordinary skill in the art to modify Wai by adding surfactant to the contacting fluid in order to precipitate out any proteins during the extraction process without inactivating them.

Response to Arguments

11. Applicant's arguments, see Applicant's Amendment, filed August 18, 2006, with respect to the rejection under 35 USC 112 second paragraph have been fully considered and are persuasive. The rejection of claims 1-20 as indefinite has been withdrawn.

12. Applicant's arguments filed August 18, 2006 regarding the references Wai and Hartung have been fully considered but they are not persuasive.

13. Applicant's arguments with respect to the rejection(s) of claim(s) 18-20 under McMurtrey have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Laugharn (WO 9922868 A1).

14. Applicant argues that Wai does not anticipate a pressure range of from about 25 to about 50 bar because Wai does not provide examples of extraction using that range. Examiner disagrees. The scope of the specification is not limited to the examples. The lack of examples does not change that the disclosure teaches that pressurized water mediated extraction of analytes in a sample is operable at a pressure of about 25 bar (abstract, column 1 lines 52-55; column 4 lines 7-11). Since Wai teaches that pressurized water mediated extraction is operable at a pressure of about 25 bar, it anticipates applicant's claimed range of about 10 to about 25 bars. This logic also

applies to the obviousness rejection under Wai. Since Wai teaches that extraction at about 25 bar is possible, it would have been obvious to carry out an extraction at that pressure.

15. Applicant argues that Hartung's teaching the use of pressures above atmospheric (column 3 lines 31-33) is speculative. Examiner disagrees. The scope of the specification is not limited to examples. In addition, the lack of enumerated pressures does not make Hartung's teaching inoperable. Hartung teaches that pressures above atmospheric may facilitate the extraction process. In other words, Hartung teaches that the pressure used in an extraction is a result-effective variable. Hartung's teaching would therefore reasonably lead one of ordinary skill in the art to use 10 bars of pressure during an extraction.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Keri A. Moss whose telephone number is 571-272-8267. The examiner can normally be reached on 9-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jill Warden can be reached on (571)272-1700. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Keri A. Moss
Examiner
Art Unit 1743

11/3/06

Jill Warden
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